



Response to Restriction Requirement
Application No. 10/816,959
Attorney Docket No. 042324

AMENDMENTS TO THE CLAIMS

Listing of claims:

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

forming an organic resist film;

forming over ~~an~~ the organic resist film a mask film having etching characteristics different from those of the organic resist film and having ~~an~~ a first opening formed in a ~~prescribed~~ first region; and

etching the organic resist film with the mask film as a mask,

in the step of etching the organic resist film, the organic resist film being etched with a mixed gas of nitrogen gas and oxygen gas.

2. (Currently Amended) A method for fabricating a semiconductor device according to claim 1,

further comprising, before the step of forming the organic resist film, the steps step of:

forming an insulating film having a ~~first~~ second opening in a ~~first~~ second region including at least a part of the first region, [[:]]

~~forming an organic resist film over the insulating film and in the first opening;~~

~~forming a mask film having etching characteristics different from those of the organic~~

~~resist film over the organic resist film;~~

~~forming a second opening in the mask film in a second region including at least a part of the first region; and~~

~~etching the organic resist film with the mask film as a mask;~~

~~in the step of etching the organic resist film, the organic resist film being etched with a mixed gas of nitrogen gas and oxygen gas in which, in the step of forming the organic resist film, the organic resist film is formed over the insulating film and in the second opening.~~

3. (Original) A method for fabricating the semiconductor device according to claim 1, wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is less than 10%.

4. (Original) A method for fabricating the semiconductor device according to claim 2, wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is less than 10%.

5. (Original) A method for fabricating the semiconductor device according to claim 1, wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is 1 - 3%.

6. (Original) A method for fabricating the semiconductor device according to claim 2,
wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is 1 - 3%.

7. (Original) A method for fabricating the semiconductor device according to claim 1,
wherein

a pressure inside a chamber for etching the organic resist film is 25 - 50 mTorr.

8. (Withdrawn) A method for fabricating the semiconductor device according to claim 2,
wherein

a pressure inside a chamber for etching the organic resist film is 25 - 50 mTorr.

9. (Withdrawn) A method for fabricating the semiconductor device according to claim 1,
wherein

the mixed gas further contains fluorocarbon gas.

10. (Withdrawn) A method for fabricating the semiconductor device according to claim 2,
wherein

the mixed gas further contains fluorocarbon gas.

11. (Withdrawn) A method for fabricating the semiconductor device according to claim 9,
wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is less than 12%.

12. (Withdrawn) A method for fabricating the semiconductor device according to claim
10, wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is less than 12%.

13. (Withdrawn) A method for fabricating the semiconductor device according to claim 9,
wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is not more than
5%.

14. (Withdrawn) A method for fabricating the semiconductor device according to claim
10, wherein

a flow rate ratio of the oxygen gas to a total flow rate of the mixed gas is not more than
5%.

15. (Withdrawn) A method for fabricating the semiconductor device according to claim 9,
wherein

a flow rate ratio of the fluorocarbon gas to a total flow rate of the mixed gas is 15 - 25%.

16. (Withdrawn) A method for fabricating the semiconductor device according to claim 10, wherein

a flow rate ratio of the fluorocarbon gas to a total flow rate of the mixed gas is 15 - 25%.

17. (Currently Amended) A method for fabricating the semiconductor device according to claim 2, wherein

in the step of etching the organic resist film, the organic resist film is etched, left at least on the bottom of the ~~first~~ second opening.

18. (Original) A method for fabricating the semiconductor device according to claim 2, wherein

in the step of forming the organic resist film, the organic resist film is formed, having the surface made flat.

19. (Original) A method for fabricating the semiconductor device according to claim 2, further comprising, after the step of etching the organic resist film, the step of:

etching the insulating film with the organic resist film as a mask.

20. (Original) A method for fabricating the semiconductor device according to claim 2, wherein

the insulating film includes one or more films selected from the group consisting of SiO film, SiN film, SiC film and SiOC film.

21. (Currently Amended) A method for fabricating the semiconductor device according to claim 2, wherein

the ~~first~~ second region is a region for via-hole to be formed in, and

the ~~second~~ first region is a region for an interconnection trench to be formed in.